

Creek, Monitor Range, 9800 feet, *Maguire & Holmgren 25693*; Pine Creek, Toquima Range, 10,000 feet, *Maguire & Holmgren 25824*.

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AQUATIC PLANTS IN OZETTE LAKE, WASHINGTON

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Many of the smaller glacial lakes of the lowlands of western Washington occupy partly filled depressions with peaty margins and soft oozy bottoms which do not provide a favorable substrate for many rooted aquatic plants. Ozette Lake, which lies within two miles of the Pacific Ocean in the Olympic Peninsula, Clallam County, differs in that it has a firm sandy or stony bottom and several shallow bays. The areas which are somewhat protected from the direct action of the prevailing westerly winds support a luxuriant aquatic vegetation of both emersed and submersed species. That the aquatics of Ozette Lake have not been neglected as much as those of most lakes is attested by the collections of I. C. Otis, J. W. Thompson, and G. N. Jones, cited by Jones (1936) in his survey of the Olympic Peninsula flora.

Scheffer and Hotchkiss (1945) have compared the distribution of fifty-one species of aquatic plants from ten glacial lakes in western Washington. They list only twenty-two species from Ozette Lake. All of these except *Scirpus validus* Vahl were observed in July, 1950. The following species are additions to their list for Ozette Lake:

**LYCOPodium INUNDATUM* L. On sandy boggy shore near the outlet.

ISOETES ECHINOSPORA Dur. var. *BRAUNII* (Dur.) Engelm.

ISOETES PIPERI A. A. Eaton.

* Not reported by Jones (1936) from the Olympic Peninsula.

**POTAMOGETON AMPLIFOLIUS* Tuckerm. In deep water off the east shore.

**ALISMA PLANTAGO-AQUATICA* L.

GLYCERIA GRANDIS Wats.

GLYCERIA PAUCIFLORA Presl.

CAREX OEDERI Retz. var. *VIRIDULA* (Michx.) Kük.

CAREX ROSTRATA Stokes var. *UTRICULOSA* (Boott.) Bailey.

CAREX MERTENSII Prescott.

CAREX KELLOGGII Boott.

CAREX CUSICKII Mack.

CAREX LIMOSA L.

CAREX LYNGBEII Hornem.

CAREX OBNUPTA Bailey.

CAREX PIPERI Mack.

DULICHUM ARUNDINACEUM (L.) Britt.

ELEOCHARIS PALUSTRIS (L.) R. & S.

ELEOCHARIS OBTUSA (Willd.) Schutt.

SCIRPUS ACUTUS Muhl. This common emersed species extending from shore to deep water is probably what has been reported as *S. validus* Vahl by Scheffer and Hotchkiss. Along the east shore extreme specimens were measured which had a height of sixteen feet.

LEMNA MINOR L.

SPIRODELA POLYRHIZA (L.) Schleid.

JUNCUS FILIFORMIS L.

**IRIS PSEUDACORUS* L. In shallow water near shore of Garden Island; probably introduced.

**NYMPHAEA TUBEROSA* Paine. In a shallow bay off the east shore of Garden Island; probably introduced.

RANUNCULUS REPTANS L. var. *OVALIS* (Bigel.) T. & G.

SUBULARIA AQUATICA L.

POTENTILLA PACIFICA Howell.

POTENTILLA PALUSTRIS Scop.

MYRIOPHYLLUM EXALBESCENS Fern.

LILAEOPSIS OCCIDENTALIS C. & R.

OENANTHE SARMENTOSA Presl.

VERONICA SCUTELLATA L.

VERONICA AMERICANA Schwein.

**UTRICULARIA INTERMEDIA* Hayne. Intermingled with *U. vulgaris* among *Menyanthes trifoliata* in shallow water, Swan Bay.

LOBELIA DORTMANNIA L. In shallow water the flowering stems of this plant grow spirally coiled about the stems of *Equisetum limosum*; probably due to wind action.

**BIDENS BECKII* L. Submerged in four to five feet of water.

Not all of these plants are known to be a source of food for waterfowl, but many of them are eaten by waterfowl and have been among those plants so reported from other lakes of the Pacific Northwest (Scheffer and Hotchkiss, 1945). It is believed

that the additional species here reported must be considered if the plant-food resources for waterfowl available in Ozette Lake are to be accurately evaluated. Its strategic location, as the most westerly freshwater lake in continental United States, certainly is not overlooked entirely by migrating waterfowl. If the value of Ozette Lake is recognized and the removal of the adjacent coniferous forest, which is likely to take place in the next decade or so, is properly managed, the plant-food potentialities may be expected to increase. On the other hand, if the forest-removal operations are carried on under conditions which permit excessive silting or accumulation of quantities of bark and waste wood in the lake then many of the shallow areas supporting aquatic plants may become unproductive.

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A NEW HAPLOPAPPUS FROM NEW MEXICO

ARTHUR CRONQUIST

Haplopappus microcephalus sp. nov. Planta perennis, glabra vel subglabra, ut videtur suffrutescens, caulis pluribus ad 5 cm. altis, foliis firmis oblanceolatis trinervatis integris vel subintegris, imis oblanceolatis 2-4 cm. longis 2-3.5 mm. latis, caulinis similibus sed minoribus; capitula plura in inflorescentia corymbiformi, involucri 6-8 mm. altis turbinato-obconicis, bracteis imbricatis plurimis caudato-attenuatis, radiis flavis inconspicuis 2.5-3.0 mm. longis ca. 9-12, corollis disci fertilibus 4.3-4.7 mm. longis ca. 7-14, appendicibus styli anguste lanceolato-triangularibus, setis pappi ca. 30 inaequalibus albidis.

Perennial, glabrous or nearly so, apparently mat-forming and suffrutescens as in *H. acaulis*; stems several, about 5 cm. tall; basal leaves numerous, firm, 2-4 cm. long, 2-3.5 mm. wide, oblanceolate, acute, subpetiolate, entire or with an occasional small tooth, 3-nerved, the nerves resinous above; cauline leaves several, similar but somewhat smaller; heads several or rather many (up to 30 or more) in a condensed, rather flat-topped, corymbiform inflorescence; involucre 6-8 mm. high, turbinato-obconic, its firm, chartaceous bracts imbricate in several series, the outer gradually caudate-attenuate, the middle ones abruptly so, the innermost merely sharp-pointed; rays inconspicuous, yellow, about 2.5-3.0 mm. long